

Notice of Allowability

Application No.

09/987,452

Examiner

Fred Ferris

Applicant(s)

VASEY-GLANDON ET AL.

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 26 July 2005.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 09302005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


AW 2/18

DETAILED ACTION

1. *Claims 1-12 have been presented for examination based on applicant's amendment filed on 26 July 2005. Amended claims 1-12 have now been allowed over the prior art of record.*

Response to Arguments

2. *Applicant's arguments with respect to amended claims 1-12 filed on 26 July 2005 have been fully considered and are persuasive.*

Regarding applicants response to double patenting rejection: *The examiner withdraws the double patenting rejection of claims 1-12 in view of applicant's amendment to the claims and supporting arguments filed on 26 July 2005.*

Regarding applicant's response to 103(a) rejections: *The examiner withdraws the 103(a) rejection of claims 1-12 in view of applicant's amendment to the claims and supporting arguments filed on 26 July 2005.*

EXAMINER'S AMENDMENT

3. *An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.*

Authorization for this examiner's amendment was given in a telephone interview with Mr. Guy Gosnel (for: Keith Roberson) on 30 September 2005.

Amend claims 1, 3, and 4 with the following:

- In line 1 of claims 1, and 4 **insert** the phrase “**computer implemented**” between the first word “A” and the second word “knowledge”.

Line 1 of claims 1, and 4 should now read: “A **computer implemented** knowledge driven design optimization...”

- In line 1 of claim 3 **insert** the phrase “**computer implemented**” between the sixth word “a” and the seventh word “knowledge”.

Line 1 of claim 3 should now read: “A laminate part constructed using a **computer implemented** knowledge driven design optimization...”

Allowable Subject Matter

4. Claims 1-12 are allowed over the prior art of record.

The following is an examiner’s statement of reasons for allowance:

Applicants are disclosing a computer implemented design optimization process and system for knowledge based of laminate structures that includes ply definition, definitions of laminate structure regions, stacking sequences, including the display of views and corresponding design data. This has been disclosed in the prior art of record.

While these elements are individually disclosed in the prior art, the prior art of record does not meet the conditions as suggested in MPEP section 2132, namely:

“The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913,

1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)."

In particular, while the prior art discloses features relating to the claimed limitations of "optimizing the 3-D definition of a laminate part, displaying views of laminate part data, and optimized staking sequences, the prior art does not explicitly disclose that the connectivity between regions defining the laminate part and coupled substructure, includes the "starting definition point for determining connectivity" being "defined by a connection point of a substructure portion to the laminate part or to a second substructure portion", as now required by the amendment to independent claims 1, 3, 4, and 8. (See: specification page 31, lines 16-25, Figs. 7A-10A, for example) Independent claim 8 further recites "means for" language and is given deference in view of *In re Donaldson* and interpreted in view of 35 U.S.C. § 112 paragraph 6. The "means for" language and the limitations related to the first through sixth means for generating, determining, displaying, modifying, and optimizing are interpreted within the scope of enablement as provided within the relative embodiment provided in applicant's specification beginning on page 27, line 7 and demonstrated in Figures 7A-17B and 22-29.

The closest prior art uncovered during examination teaches certain limitations of the claimed invention as follows:

U.S. Patent 6,220,743 issued to Campestre et al: Teaches a knowledge based design optimization process for designing and globally optimizing 3-D parts and

displaying views and corresponding data but does not explicitly disclose that the connectivity between regions defining a laminate part and coupled substructure, includes the “starting definition point for determining connectivity” being “defined by a connection point of a substructure portion to the laminate part or to a second substructure portion” as recited in independent claims 1, 3, 4, and 8.

“CAD Based Optimization of Composite Structures”, P. Morelle et al: teaches design and optimization of laminate structures including ply definition, definitions of laminate structure regions, stacking sequences, and defines the thickness (ramp) details of interconnected regions, multidimensional laminate feature definition, and addresses the connectivity between laminate regions of structures. However, Morelle also does not explicitly disclose that the connectivity between regions defining a laminate part and coupled substructure, includes the “starting definition point for determining connectivity” being “defined by a connection point of a substructure portion to the laminate part or to a second substructure portion” as recited in independent claims 1, 3, 4, and 8.

The features noted above relating to the connectivity between regions defining the laminate part and coupled substructure, includes the starting definition point for determining connectivity being defined by a connection point of a substructure portion to the laminate part or to a second substructure portion, renders the claimed invention non-obvious over the prior art of record. Dependent claims 2, 5-7, and 9-12 are deemed allowable as depending from independent claims 1, 4, and 8 respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere can be reached at 571-272-3780. The Official Fax Number is: (703) 872-9306*

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